
Bendamustine therapy in chronic lymphocytic leukemia.

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Public Summary:

Bendamustine is a 50-year-old drug with a new life in the treatment of CLL. The studies reviewed here demonstrate the clinical efficacy of this agent alone or in combination with other agents in the treatment of CLL. This agent has shown superior activity compared to chlorambucil, the FDA approved agent for the treatment of CLL. It has also shown high activity in patients who have relapsed following therapy with purine analogue and alkylator therapy and can also safely be combined with rituximab. This agent has demonstrated an acceptable safety profile in the CLL population.

Scientific Abstract:

BACKGROUND: Bendamustine is now approved in the US for the treatment of chronic lymphocytic leukemia and low grade non-Hodgkin's lymphoma, and is currently being explored in the treatment of several solid tumor types. OBJECTIVE: The bi-functionality of bendamustine was used to provide a therapeutic understanding of both its benefit as well as adverse effects. METHODS: Pertinent biochemistry and molecular biology pathways are reviewed with regards to bendamustine activity. In view of these pathways bendamustine was reviewed in human clinical trials. RESULTS/CONCLUSION: Bendamustine combines alkylating properties with purine analogue properties making it an effective drug in chronic lymphocytic leukemia where agents that affect these pathways have proven useful. There is limited evidence of cross-reactivity with this agent and other pure purine analogues and alkylators.

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